050-96-017 C1/D1 (02158.004700 CI/DI) PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	:	Examiner: John W. Eldred
JOHN STANKO	)	
	:	Group Art Unit: 3644
Application No.: 09/640,063	)	
	:	
Filed: August 17, 2000	)	
	:	
For: HYBRID DEICING SYSTEM AND METHOD OF OPERATION	)	
	:	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132 OF JOHN STANKO

Sir:

1. I am the inventor of the inventions described and claimed in the above-identified patent application, which claims are set forth in the Claim Sheet attached as Exhibit 1.

2. Also, I have attached hereto as Exhibit 2 a document entitled "AlliedSignal's Augmented Forced-Air Deicing (AFAD)" from AlliedSignal Aerospace dated October 22, 1996.

3. This document states at page 2: "This equipment inside a 3 ft Cubical Enclosure at Base of Deicing Boom".

4. This statement describes my own work.

5. In this regard, at that time I was employed by AlliedSignal Inc.

6. Now, as the result of a merger, I am employed by Honeywell International Inc., which I understand is the assignee of the subject application.

7. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application and any patent issuing thereon.

11 · 13 · 2003

Date (Month/Day/Year)

John Stanko

EXHIBIT 1

CLAIM SHEET

1-182. (Cancelled)

183. (Previously Presented) An apparatus for deicing comprising:

a vehicle;

a boom having an end mounted on the vehicle and a free end;

a compressor supported at the base of the boom and having an air outlet; and

a deicer air jet nozzle located at the boom and operatively coupled to the air outlet of the compressor for receiving air and discharging the air for a deicer application.

184. (Previously Presented) An apparatus according to claim 183, and further comprising a hydraulic motor having an output connected to said compressor for driving said compressor, and a hydraulic pump mounted on the vehicle and hydraulic feed lines extending from said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic motor.

185. (Previously Presented) An apparatus according to claim 184, including a vehicle engine supported by said vehicle for supplying power to said hydraulic pump.

186. (Previously Presented) An apparatus according to claim 184, and further comprising gear driving operatively connected between said compressor and said hydraulic motor for stepping up the revolutions per minute of said compressor relative to the output of said hydraulic motor.

187. (Previously Presented) An apparatus according to claim 186, wherein the step up gear ratio is 12.27:1.

188. (Previously Presented) An apparatus according to claim 183, wherein said deicer air jet nozzle defines an axisymmetric contour having a converging portion.

189. (Previously Presented) An apparatus according to claim 183, and further comprising a fluid nozzle mounted on said deicer air jet nozzle, a source of deicing fluid, a supply tube interconnecting said source of deicing fluid and fluid nozzle, and a fluid pump for pumping deicing fluid from the source of deicing fluid and through the supply tube and fluid nozzle.

190. (Previously Presented) An apparatus according to claim 183, wherein said pump forces air through said deicer air jet nozzle at about 100 pounds per minute.

191. (Previously Presented) An apparatus for deicing comprising:

a vehicle;

a boom having an end mounted on the vehicle and a free end;

a compressor unit supported at the base of the boom, said compressor unit comprising:

a compressor having an air outlet; and

a deicer air jet nozzle located at the free end of the boom and operatively coupled to the air outlet of the compressor for receiving air and discharging the air for a deicer application.

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192. (Previously Presented) An apparatus according to claim 191, wherein said compressor forces air through said deicer air jet nozzle at about 100 pounds per minute.

193. (Previously Presented) An apparatus according to claim 191, and further comprising a motor having an output, wherein said motor comprises a hydraulic motor, and further including a hydraulic pump and hydraulic feed lines extending from said hydraulic pump to said hydraulic motor.

194. (Previously Presented) An apparatus according to claim 193, wherein said hydraulic pump is mounted on said vehicle, and said hydraulic feed lines extend from

said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic motor.

195. (Previously Presented) An apparatus according to claim 194, said hydraulic feed lines extending from said hydraulic pump to said hydraulic motor on said boom for suppling hydraulic fluid under pressure to said hydraulic pump.

196. (Previously Presented) An apparatus according to claim 195, and further comprising a vehicle engine mounted on said vehicle for supplying power to said hydraulic pump.

197. (Previously Presented) An apparatus according to claim 191, wherein said deicer air jet nozzle defines an axisymmetric contour having a converging portion.

198. (Previously Presented) An apparatus according to claim 191, and further comprising a fluid nozzle mounted on said deicer air jet nozzle, a source of deicing fluid, a supply tube interconnecting said source of deicing fluid and fluid nozzle, and a fluid pump for pumping deicing fluid from the source of deicing fluid and through the supply tube and fluid nozzle.

199. (Previously Presented) A method for deicing aircraft comprising the steps of:

compressing air within a compressor supported at the base of a vehicle boom; and

discharging the air from a deicer air jet nozzle located at the end of the vehicle boom such that air is forced outward from the deicer air jet nozzle.

200. (Previously Presented) A method according to claim 199, wherein the air is discharged from the deicer air jet nozzle at about 12 pounds per square inch.

201. (Previously Presented) A method according to claim 199, wherein the air is discharged through air jet nozzle that defines an axisymmetric contour having a converging portion.

202. (Previously Presented) A method according to claim 199, and further comprising the step of hydraulically driving a motor coupled to the compressor, wherein the motor comprises a hydraulic motor.

203. (Previously Presented) A method according to claim 202, and further comprising the step of driving the hydraulic motor from a hydraulic pump located on a vehicle.

204. (Previously Presented) A method according to claim 203, and further comprising the step of operating the hydraulic pump from the engine used for driving the vehicle.

205. (Previously Presented) A method according to claim 202, and further comprising the step of stepping up the revolutions per minute of the compressor relative to the output of the motor by gear driving coupled between the centrifugal compressor and the motor.

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206. (Previously Presented) A method according to claim 199, and further comprising the step of discharging the air from the nozzle at above ambient temperature.

207. (Previously Presented) An apparatus according to claim 183, wherein said deicer air jet nozzle is located at the free end of the boom.

208. (Previously Presented) An apparatus according to claim 191, wherein said deicer air jet nozzle is mounted to the free end of the boom.

209. (Previously Presented) A method according to claim 199, and further comprising the step of forcing air outward from the deicer air jet nozzle at about 100 pounds per minute.

210-222. (Cancelled)

223. (Previously Presented) An apparatus for deicing comprising:

a vehicle;

a boom having an end mounted on the vehicle and a free end;

a compressor connected to the boom and having an air outlet; and

a deicer air jet nozzle located at the boom and operatively coupled to the air outlet of the compressor for receiving air and discharging the air for a deicer application.

224. (Previously Presented) An apparatus according to claim 223, and further comprising a hydraulic motor having an output connected to said compressor for driving said compressor, and a hydraulic pump mounted on the vehicle and hydraulic feed lines extending from said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic motor.

225. (Previously Presented) An apparatus according to claim 224, including a vehicle engine supported by said vehicle for supplying power to said hydraulic pump.

226. (Previously Presented) An apparatus according to claim 224, and further comprising gear driving operatively connected between said compressor and said

hydraulic motor for stepping up the revolutions per minute of said compressor relative to the output of said hydraulic motor.

227. (Previously Presented) An apparatus according to claim 226, wherein the step up gear ratio is 12.27:1.

228. (Previously Presented) An apparatus according to claim 223, wherein said deicer air jet nozzle defines an axisymmetric contour having a converging portion.

229. (Previously Presented) An apparatus according to claim 223, and further comprising a fluid nozzle mounted on said deicer air jet nozzle, a source of deicing fluid, a supply tube interconnecting said source of deicing fluid and fluid nozzle, and a fluid pump for pumping deicing fluid from the source of deicing fluid and through the supply tube and fluid nozzle.

230. (Previously Presented) An apparatus according to claim 223, wherein said pump forces air through said deicer air jet nozzle at about 100 pounds per minute.

231. (Previously Presented) An apparatus for deicing comprising:

a vehicle;

a boom having an end mounted on the vehicle and a free end;

a compressor unit connected to the boom, said compressor unit comprising:

a compressor having an air outlet; and

a deicer air jet nozzle located at the free end of the boom and operatively coupled to the air outlet of the compressor for receiving air and discharging the air for a deicer application.

232. (Previously Presented) An apparatus according to claim 231, wherein said compressor forces air through said deicer air jet nozzle at about 100 pounds per minute.

233. (Previously Presented) An apparatus according to claim 231, and further comprising a motor having an output, wherein said motor comprises a hydraulic motor, and further including a hydraulic pump and hydraulic feed lines extending from said hydraulic pump to said hydraulic motor.

234. (Previously Presented) An apparatus according to claim 233, wherein said hydraulic pump is mounted on said vehicle, and said hydraulic feed lines extend from said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic motor.

235. (Previously Presented) An apparatus according to claim 234, said hydraulic feed lines extending from said hydraulic pump to said hydraulic motor on said boom for suppling hydraulic fluid under pressure to said hydraulic pump.

236. (Previously Presented) An apparatus according to claim 235, and further comprising a vehicle engine mounted on said vehicle for supplying power to said hydraulic pump.

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237. (Previously Presented) An apparatus according to claim 231, wherein said deicer air jet nozzle defines an axisymmetric contour having a converging portion.

238. (Previously Presented) An apparatus according to claim 231, and further comprising a fluid nozzle mounted on said deicer air jet nozzle, a source of deicing fluid, a supply tube interconnecting said source of deicing fluid and fluid nozzle, and a fluid pump for pumping deicing fluid from the source of deicing fluid and through the supply tube and fluid nozzle.

239. (Previously Presented) A method for deicing aircraft comprising the steps of:

compressing air within a compressor connected to a vehicle boom; and

discharging the air from a deicer air jet nozzle located at the end of the vehicle boom such that air is forced outward from the deicer air jet nozzle.

240. (Previously Presented) A method according to claim 239, wherein the air is discharged from the deicer air jet nozzle at about 12 pounds per square inch.

241. (Previously Presented) A method according to claim 239, wherein the air is discharged through air jet nozzle that defines an axisymmetric contour having a converging portion.

242. (Previously Presented) A method according to claim 239, and further comprising the step of hydraulically driving a motor coupled to the compressor, wherein the motor comprises a hydraulic motor.

243. (Previously Presented) A method according to claim 242, and further comprising the step of driving the hydraulic motor from a hydraulic pump located on a vehicle.

244. (Previously Presented) A method according to claim 243, and further comprising the step of operating the hydraulic pump from the engine used for driving the vehicle.

245. (Previously Presented) A method according to claim 242, and further comprising the step of stepping up the revolutions per minute of the compressor relative to the output of the motor by gear driving coupled between the centrifugal compressor and the motor.

246. (Previously Presented) A method according to claim 239, and further comprising the step of discharging the air from the nozzle at above ambient temperature.

247. (Previously Presented) An apparatus according to claim 223, wherein said deicer air jet nozzle is located at the free end of the boom.

248. (Previously Presented) An apparatus according to claim 231, wherein said deicer air jet nozzle is mounted to the free end of the boom.

249. (Previously Presented) A method according to claim 239, and further comprising the step of forcing air outward from the deicer air jet nozzle at about 100 pounds per minute.

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EXHIBIT 2

Alli dSignal'
Augmented Forced-Air Deicing (AFAD)

Meeting the Needs of Customers and the Environment

New Innovative Deicing System that Significantly Reduces Glycol Usage:

- Hybrid System: Forced Air + High Speed Deicing Fluid
  - Utilizing Unique Co-Axial Nozzle
- Effective Under All Deicing Conditions
  - Heavy, Wet Snow
  - Ice and Snow Frozen to Surface
- Adjustable to Specific Icing Conditions for Maximum Economy
- Less Deicing Fluid Usage = Greater On-Station Time
- Designed to Replace Conventional Type I Systems
- Uses a Fraction of Conventional Deicing System Fluid (<15%)
  - Minimizes Waste Management
- Greatly Reduced Ownership Costs
  - <20% of Conventional System Operating Cost
- Robust System: 3 Major LRU's
- Compatible with Existing Truck Systems

AlliedSignal's Augmented Forced-Air Deicing: The Economical, Environmentally-Friendly Solution to Your Deicing Problems

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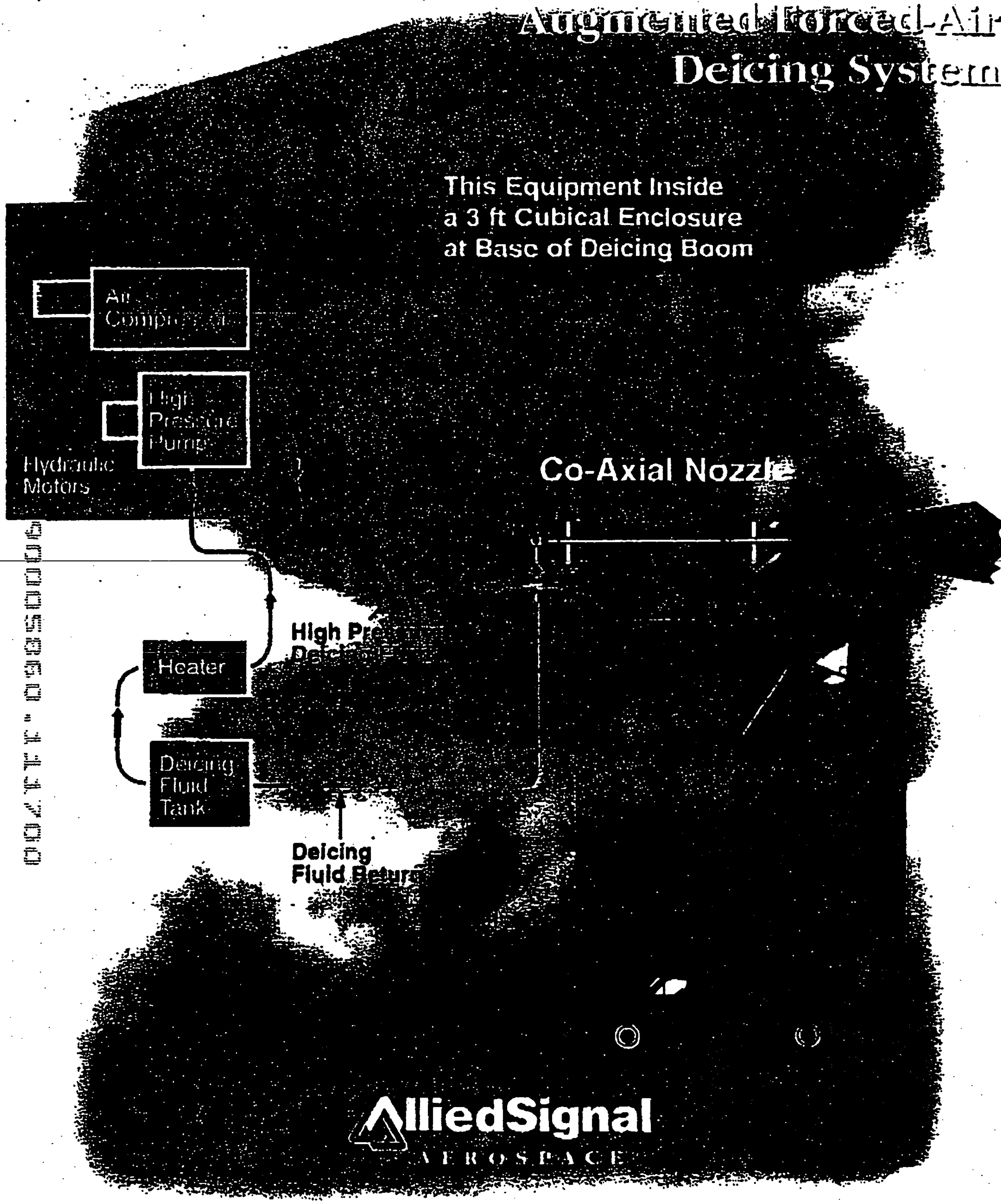
AlliedSignal AEROSPACE


Augmented Forced-Air
Deicing System
This Equipment Inside
a 3 ft Cubical Enclosure
at Basc of Deicing Boom
Hydraulic
Motors
Co-Axial Nozzle
Heater
Deicing
Fluid Return
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